

1. In a magnetic separation system for separating magnetic from non-magnetic particles employing a dry drum/belt magnetic separator, an electrostatic separator, said electrostatic separator including at least one electrode located closely adjacent a moving belt overlying a magnetic drum for attracting charged non-magnetic particles on such belt to remove such particles from such belt.

2. In the system as defined in Claim 1 wherein said at least one electrode is formed as an elongate metal rod.

3. In the system as defined in Claim 2 wherein said rod is coated with a non-electrically conductive material.

4. In the system as defined in Claim 2 wherein said rod is positioned lengthwise in a manner such that said rod is substantially transverse the direction of movement of such belt.

5. In the system as defined in Claim 1 wherein said at least one electrode carries a positive electric charge for removing negatively charged non-magnetic particles from such belt.

6. In a magnetic separation system for separating magnetic from non-magnetic particles employing a dry drum/belt magnetic separator, an electrostatic separator and an ionizer for separating electrically charged non-magnetic particles on a moving belt from magnetic particles, said electrostatic separator including a plurality of spaced elongate electrically charged electrodes for attracting such charged non-magnetic particles carried by such belt, and an ionizer for creating an ion cloud directed toward a surface of such belt for electrically neutralizing such surface of such belt.

7. In the system as defined in Claim 6 wherein said electrodes are located closely adjacent such belt.

8. In the system as defined in Claim 7 wherein said electrodes are positioned lengthwise in a manner such that said electrodes are substantially transverse the direction of movement of such belt.
9. In the system as defined in Claim 6 wherein each said electrode is an elongate metal rod.
10. In the system as defined in Claim 8 wherein said electrodes are spaced vertically.
11. In the system as defined in Claim 6 wherein each electrode carries a positive electric charge for removing negatively charged non-magnetic particles from such belt.
12. In the system as defined in Claim 6 wherein said electrodes are positioned downstream of said ionizer with respect to the direction of motion of such belt.
13. A magnetic separation system for separating magnetic from non-magnetic particles employing a dry drum/belt magnetic separator, an electrostatic separator, said electrostatic separator including at least one electrode located closely adjacent moving said belt overlying said magnetic drum for attracting charged non-magnetic particles on said belt to remove such particles from said belt.
14. The system as defined in Claim 13 wherein said at least one electrode is formed as an elongate metal rod.
15. The system as defined in Claim 14 wherein said rod is positioned lengthwise in a manner such that said rod is substantially transverse the direction of movement of said belt.
16. A magnetic separation system for separating magnetic from non-magnetic particles employing a dry drum/belt magnetic separator, an electrostatic separator and an ionizer for separating electrically charged non-magnetic particles on a moving belt from magnetic particles, said electrostatic separator including a plurality of spaced elongate electrically charged electrodes for attracting such charged non-magnetic particles carried by said belt,

and an ionizer for creating an ion cloud directed toward a surface of said belt for electrically neutralizing such surface of said belt.

17. The system as defined in Claim 16 wherein said electrodes are located closely adjacent said belt.

18. The system as defined in Claim 17 wherein said electrodes are positioned lengthwise in a manner such that said electrodes are substantially transverse the direction of movement of said belt.

19. The system as defined in Claim 18 wherein said electrodes are spaced vertically.

20. The system as defined in Claim 16 wherein said electrodes are positioned upstream of said ionizer with respect to the direction of motion of said belt.